

chlorine dioxide in a first chlorine dioxide stage of an elemental chlorine free bleaching sequence, and of minimizing the use of chlorine dioxide, comprising:

1
E (a) bleaching the chemical cellulose pulp in a first chlorine dioxide step at a temperature between 80-100°C for less than 10 minutes and so as to provide a chlorine dioxide dosage of between 0.5-1.5 % active chlorine, and adjusting the pH of the pulp in the first chlorine dioxide step so that the final pH of the step is over 4; and then

(b) effecting an acid treatment of the chemical cellulose pulp from step (a) at a pH of between 2 - 5 and at a temperature of over 80°C and a time of 30-300 minutes sufficient to remove hexenuronic acids from the pulp.

35. (Four Times Amended) A method of treating chemical cellulose pulp from an alkaline pulping process, after cooking and preferably after oxygen delignification, with chlorine dioxide in a first chlorine dioxide stage of an elemental chlorine free bleaching sequence, and of minimizing the use of chlorine dioxide, comprising:

2
E (a) bleaching the chemical cellulose pulp in a first chlorine dioxide step so that the final pH of the step is over 5, and so as to provide a chlorine dioxide dosage of between about 0.5-1.5 % active chlorine and so that hexenuronic acid groups in the pulp substantially do not react with chlorine dioxide, and for a treatment time of between 30 seconds-three minutes and at a temperature of 80-100°C; and then

(b) acid treating the chemical cellulose pulp from step (a) at a pH of between 2 - 5 and at a temperature of over 80°C for 30-300 minutes.

REMARKS

Claim 21 is being amended to comply with the Examiner's objection as set forth in the Advisory Action of November 6, 2002. The amendment made in claim 35 is to correct a typographical error.

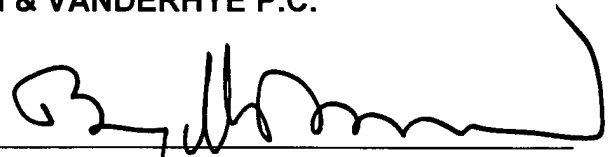
VUORINEN et al
Serial No. 09/262,912

The application is now considered to be in condition for allowance and notification to that end is awaited.

Respectfully submitted,

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APPENDIX I

21. (Four Times Amended) A method of treating chemical cellulose pulp from an alkaline pulping process, after cooking and preferably after oxygen delignification, with chlorine dioxide in a first chlorine dioxide stage of an elemental chlorine free bleaching sequence, and of minimizing the use of chlorine dioxide, comprising:

(a) bleaching the chemical cellulose pulp in a first chlorine dioxide step at a temperature [over] between 80-100°C for less than 10 minutes and so as to provide a chlorine dioxide dosage of between 0.5-1.5 % active chlorine, and adjusting the pH of the pulp in the first chlorine dioxide step so that the final pH of the step is over 4; and then

(b) effecting an acid treatment of the chemical cellulose pulp from step (a) at a pH of between 2 – 5 and at a temperature of over 80°C and a time of 30-300 minutes sufficient to remove hexenuronic acids from the pulp.

35. (Four Times Amended) A method of treating chemical cellulose pulp from an alkaline pulping process, after cooking and preferably after oxygen delignification, with chlorine dioxide in a first chlorine dioxide stage of an elemental chlorine free bleaching sequence, and of minimizing the [sue] use of chlorine dioxide, comprising:

(a) bleaching the chemical cellulose pulp in a first chlorine dioxide step so that the final pH of the step is over 5, and so as to provide a chlorine dioxide dosage of between about 0.5-1.5 % active chlorine and so that hexenuronic acid groups in the pulp substantially do not react with chlorine dioxide, and for a treatment time of between 30 seconds-three minutes and at a temperature of 80-100°C; and then

(b) acid treating the chemical cellulose pulp from step (a) at a pH of between 2 - 5 and at a temperature of over 80°C for 30-300 minutes.